



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CAL

FILED

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for Development of Distribution Resources Plans Pursuant to Public Utilities Code Section 769.	Rulemaking 14-08-013 8-22-16 (Filed August 14, 2014) 04:59 PM
And Related Matters.	Application 15-07-002 Application 15-07-003 Application 15-07-006 (Filed July 1, 2015)

(NOT CONSOLIDATED)

In the Matter of the Application of PacifiCorp (U901E) Setting Forth its Distribution Resource Plan Pursuant to Public Utilities Code Section 769.	Application 15-07-005 (Filed July 1, 2015)
And Related Matters.	Application 15-07-007 Application 15-07-008

COMMENTS OF UTILITYAPI ON ASSIGNED COMMISSIONER'S RULING ON TRACK 3 ISSUES

August 22, 2016

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In response to the August 9, 2016 Assigned Commissioner's Ruling on Track 3 Issues ("ACR"), UtilityAPI respectfully submits the following comments.

UtilityAPI is an Oakland, CA based small business that aims to improve the exchange and flow of energy billing and usage data to facilitate the evaluation, measurement, verification and fulfillment of distributed energy resources (DER). We have identified, developed and market-tested best practices in the sharing and exchange of energy billing and usage data amongst utilities, utility account holders and third-parties of the utility account holders' choosing, especially DER providers. Moreover, we are the only third party that has built integrations with all current and scheduled Green Button Connect implementations.

We agree that the 22 issues identified in the Scoping Memo should be consolidated and that certain issues are either being addressed, or are better addressed in other proceedings. In contrast to the characterization in the ACR, however, we disagree that issues around data access and data analysis (currently recommended for removal from Track 3) are being adequately addressed elsewhere.

We are concerned that: (1) issues relating to data access and data analysis issues are not being adequately addressed in the DRP nor the IDER; and (2) we further believe that stronger coordination of data access and analysis issues is necessary across the DRP, IDER and other DER proceedings.

Secure, synchronous access to comprehensive, accurate and clear energy usage and billing data is fundamental to fulfilling commitments to clean energy policy locally, nationally and globally. California has a comprehensive regulatory approach to consumer energy data access and privacy; the only state within the country, and even internationally, to do so. While significant resources were invested in the deployment of advanced metering hardware in California; software and universal data standards and access protocols are needed to reap the benefit of this investment.

The growth of new energy technologies would be greatly enhanced by standardizing the implementation of data sharing platforms to meet the needs of the market. Growth, jobs, and innovation would be faster if California, again, led the way in utility data access.

In an effort to address these concerns, we recommend the following principles:

1. **Full Data Set:** Standardize availability of a requisite set of data for historical and ongoing data access. Please see Appendix A for suggested data set.
2. **Synchronous Data:** Once a data request is authorized and authenticated, data is delivered on-demand, upon authorization, (e.g. data begins streaming w/in 90 seconds of request).
3. **Instant, Digital Authorization:** A digital signature (incl. click-through) is valid for authorizing data sharing.
4. **Instant, Consumer-Centric Authentication:** A third-party will not be held to a higher authentication standard than the Utility holds itself. Accordingly, the Utility will authenticate using consumer-centric login credentials, for example, zip code and account # or Online Account username and password.
5. **Seamless Click-through:** A utility account holder will be allowed to begin and end the click-through process on the Third-Party website. This may happen without any requirement to log in to any other site/process during this flow (e.g. checkbox) or may allow the user to remain in the third party website flow, even in various authentication scenarios (login, signup, forgotten password, etc.), as in the case of OAuth or open authorization protocols. The click-through process shall be designed to be one-click and the third party may lead the customer request for the types of data and the time frame of data sharing. The customer may approve or reject such a request in its sole discretion.
6. **Strong Security Protocols:** Adopt strong security protocols. Data security may accommodate cloud-based systems. In addition, we recommend consideration of the security elements listed in Appendix B.

Proposed Sub-track 4 to Track 3 of the DRP for Data Access

We firstly propose a new Sub-track 4 in Track 3 to specifically address data access and data analysis issues. The proposed sub-track is necessary to provide a linkage between the DRP and IDER proceedings. We note that the *February 26, 2016 Joint Assigned Commissioner and Administrative Law Judge Ruling and Amended Scoping Memo* from the IDER proceeding, as well as the *April 4, 2016 Assigned Commissioner's Ruling Introducing a Draft Regulatory Incentives Proposal for Discussion and Comment*, each discuss the need to address business models from a financial, economic and regulatory framework perspective, *but do not directly address data or technical needs*. We therefore believe it is appropriate to address data and technical issues in a new Sub-track 4 to the DRP Track 3 proceeding.

Sub-track 4 to Address two categories of Data Access

We wish to further clarify that the proposed fourth sub-track should address two categories of data access issues: customer-level data access and grid-level data access. Both categories of data access must be more fully addressed in order to facilitate the adoption of DER requisite to meet our collective climate policy commitments. We believe it is appropriate and necessary to address these issues in a new Sub-track 4 because this information will be necessary for adequate planning and analysis by both utilities and third party providers. These data access issues have not been adequately addressed in the IDER proceedings or in Track 1 of this proceeding. This sub-track could also serve as a prime opportunity for coordination between the IDER and DRP proceedings, as data access and analysis are critical for both processes.

Customer Data Access

Specifically, while mechanisms for allowing access to customer data were discussed in the Competitive Solicitations Framework Working Group subgroups, there were no specifics about what data is needed for what purposes, and what data would be available to which parties. For access to utility data to date, common practice is that building managers, energy auditors, and consultants frequently act on behalf of the customer of record. The customer of record, such as the CFO of a business, cannot be expected to be the only person who is able to access utility account data. Standard practice is that a customer of record is allowed to let a vendor or

authorized third-party agent act on their behalf. And yet, lack of clarity remains regarding regulation vis a vis authorization flow, required authorization login credentials, data set provision and security standards,

Currently mandated data sharing requirements do not yet meet the needs of the DERs and other stakeholders, including utilities. Data and standard data sharing processes are crucial to fulfilling state and federal policy objectives for climate, energy affordability and economic growth targets. Lack of clarity around data sharing requirements adds cost and creates confusion as each utility has interpreted the standards for the provision of data and rolled out its data interface quite differently.

Alternatively, the Commission may choose to address mechanisms for allowing access to customer data in the IDER proceeding while addressing grid-level data access issues in proposed Sub-track 4. If the Commission chooses to address customer-level data access issues in the IDER, we respectfully request an IDER scoping ruling to clarify Customer Data Access issues.

Grid-Level Data Access

We recommend that grid-level data access be addressed in the newly proposed Sub-track 4. A complete data picture is needed in order to evaluate optimal locations, optimal DER portfolios and determine the correct locational net benefits.

Extend Click-Through to all Data Access

In either approach, the IDER or a new proposed Sub-track 4, we formally propose that Order 16-06-008 issued on June 9, 2016 in the Demand Response “click-through” proceeding (14-06-001) be formally extended to serve as a universal solution that would apply to all fuel types and energy programs, including, but not limited to, demand response, energy efficiency, solar, energy storage, microgrids, and building energy management. We further recommend that the implementation time frame for customer data access, as ordered in 16-06-008, be applied universally to all fuel types. Moreover, the DRP and IDER proceedings should reference this Decision and clarify that the precedent data solutions ordered in 16-06-008 should be available

for purposes of distributed energy resource development in the DRP context as well, including as potentially applied to grid-level data access.

We further request that the Commission clarify that direction on grid data access will be included in the forthcoming December 2016 decision in the DRP.

Addressing Data Access Should Be Made a Priority

Finally, we recommend prioritizing data analysis and access issues in a proposed Sub-Track 4. Any projections around DER adoption and deployment will prove wrong and the State will be unable to meet our collective climate policy commitments should data access not be addressed.

As support for our position, we further append to this filing a coalition letter that we have previously shared with Energy Division staff to inform the Commission as to the broad support for prioritized action on data access in line with the principles outlined above. While the signatories to the coalition letter are not express signatories to these reply comments, we wanted to share the coalition letter to demonstrate the broad support for action on data access.

For the foregoing reasons, we respectfully request that the Commission adopt the above recommendations.

August 22, 2016

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Appendix to Reply Comments: Coalition Letter

August 11, 2016

Attention: President Picker & Commissioner Florio

Cc: Energy Division Director Ed Randolph

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Dear President Picker & Commissioner Florio,

We are writing in support of two proceedings currently in progress at the California Public Utilities Commission (the "CPUC") that have the potential to significantly improve access to energy data. Decision 16-06-008 in the Commission's Demand Response proceeding, A.14-06-001 et al, outlines the appropriate forum and timeline for planning and implementation of data access solutions. While the DRP proceeding (R. 14-08-013) has touched upon these issues, the Demand Response proceeding already ordered an implementation that should be a universal solution that would apply to all fuel types and energy programs, including, but not limited to, demand response, energy efficiency, solar, energy storage, microgrids, and building energy management. The DRP proceeding should reference this Decision and clarify that the data solutions developed should be available for purposes of distributed energy resource development in the DRP context as well.

Secure, synchronous access to comprehensive, accurate and clear energy usage and billing data is fundamental to fulfilling commitments to clean energy policy locally, nationally and globally. California has a comprehensive regulatory approach to consumer energy data access and privacy; the only state within the country, and even internationally, to do so. California led the way by adopting and supporting the Green Button standard. While significant resources were invested in the deployment advanced metering hardware in California; software and universal data standards and access protocols are needed to reap the benefit of this investment.

The growth of new energy technologies providing products and services would be greatly enhanced by standardizing the implementation of data sharing platforms to meet the needs of the market. Growth, jobs, and innovation would be faster if California, again, led the way in utility data access. The growth of new energy technologies providing products and services would be greatly enhanced by standardizing the implementation of data sharing platforms to meet the needs of the market.

We affirm our support for the guiding principles needed to improve access to energy billing and usage data:

1. **Full Data Set:** Standardize availability of a requisite set of data for historical and ongoing data access. Please see Appendix A for suggested data set.
2. **Synchronous Data:** Once a data request is authorized and authenticated, data is delivered on-demand, upon authorization, (e.g. data begins streaming w/in 90 seconds of request).
3. **Instant, Digital Authorization:** A digital signature (incl. click-through) is valid for authorizing data sharing.
4. **Instant, Consumer-Centric Authentication:** A third-party will not be held to a higher authentication standard than the Utility holds itself. Accordingly, the Utility will authenticate using consumer-centric login credentials, for example, zip code and account # or Online Account username and password.
5. **Seamless Click-through:** A utility account holder will be allowed to begin and end the click-through process on the Third-Party website. This may happen without any requirement to log in to any other site/process during this flow (e.g. checkbox) or may allow the user to remain in the third party website flow, even in various authentication scenarios (login, signup, forgotten password, etc.), as in the case of OAuth or open authorization protocols. The click-through process shall be designed to be one-click and the third party may lead the customer request for the types of data and the time frame of data sharing. The customer may approve or reject such a request in its sole discretion.
6. **Strong Security Protocols:** Adopt strong security protocols. Data security may accommodate cloud-based systems. In addition, we recommend consideration of the security elements listed in Appendix B.

We thank you for your efforts on behalf of the citizens of the great State of California.

Kindly,

Elena Lucas
CEO, UtilityAPI

On behalf of (as of August 22, 2016):

Advanced Energy Economy
Advanced Microgrid Solutions
BuildingIQ
California Clean Energy Fund
California Solar Energy Industry Association
Chai Energy
Clean Coalition
CPower
DBL Partners
Energy Toolbase
EnergyHub, Inc.
EnerNOC, Inc.
Environmental Entrepreneurs (E2)
kWh Analytics
NRG Energy, Inc.
OhmConnect, Inc.

OneRoof Energy
PlotWatt
Powerhouse
PVComplete
Siemens
Silicon Valley Leadership Group
Solar Energy Industry Association
SolarCity
Stem, Inc.
Sungevity
SunPower Corporation
SunSwarm
Tesla Motors, Inc.
The Nature Conservancy
UtilityAPI, Inc.
Vote Solar

Appendix A: Suggested Standard Data Set for Energy Usage & Billing Data

- * **Account Elements**
 - * Account name (ACME INC. or JOE SMITH)
 - * Account address (123 OFFICE ST...)
 - * Account ID (2-xxx...)
- * **Outage block (A000)**
- * **Service Elements**
 - * Service ID (3-xxx...)
 - * Service address (123 MAIN ST #100...)
 - * Service tariff (D-TOU)
 - * Service tariff options (CARE, FERA, etc.)
 - * Service voltage (if relevant)
 - * Service meter number (if any)
 - * # of Service meters – a service account may have multiple meters, is that captured?
- * **Historical bills (since beginning of service)**
- * **Billing Elements**
 - * Bill start date
 - * Bill end date
 - * Bill total charges (\$)
 - * Bill total kWh
- * **Bill tier breakdown (if any)**
 - * Name (Over Baseline 1%-30%)
 - * Volume (1234.2)
 - * Cost (\$100.23)
- * **Bill TOU kwh breakdown (if any)**
 - * Name (Summer Off Peak)
- * Volume (1234.2)
- * Cost (\$100.23)
- * **Bill demand breakdown (if any)**
 - * Name (Summer Max Demand)
 - * Volume (1234.2)
 - * Cost (\$100.23)
- * **Bill line items (sum should equal bill total charges above)**
 - * Charge name (DWR Bond Charge)
 - * Volume (1234.2)
 - * Unit (kWh)
 - * Rate (\$0.032/kWh)
 - * Cost (\$100.23)
- * **NEM/Tracked line items**
 - * Charge name (e.g. Net In/Net Out)
 - * Volume (1234.2 in kWh)
 - * Unit (kWh)
 - * Rate (\$0.032/kWh, if any)
 - * Cost (\$100.23, if any)
- * **Payment Information**
- * **Historical Intervals (since beginning of service)**
 - * Start (unix timestamp)
 - * Duration (seconds)
 - * Volume (1234.2)
 - * Unit (kWh)

Ideally Also: Capacity Reservation Level (CRL) for CPP/PDP customers , Demand Response program name and nomination, if fixed , Standby reservation if a customer has on-site generation, and sublap for wholesale nomination.

Appendix B: Proposed Security Standards for Data Sharing and Data Storage

- Implement according to the NIST Cybersecurity Framework v.1.0 (or most current version as of 8/11/2016)
- 100% of click-through process be conducted over HTTPS
- Do not send access via email or insecure communication
- Encrypt access credentials automatically and immediately upon receipt thereof
- Store access credentials in an encrypted state using strong encryption (OpenPGP or HSM backed system)
- Do not write decrypted access credentials to disk; hold such credentials in memory for the minimum time required to perform the authorized access
- Keep audit logs of decryptions with information re what was decrypted and by whom
- Handling credentials using split-stack design
 - Servers with permissions to access stored credentials do not have permissions to decrypt them
 - Servers with permissions to decrypt credentials do not have permissions to request them from the data store
 - Reduce application on servers with permissions to decrypt to minimum applications required to perform the authorized access
- Do not transfer utility account holder data outside the United States where it is no longer protected by U.S. law
- Terms maintaining the ownership of the data with the utility account holder on the data collection provider's servers (e.g. Third Party, such that the account holder has a reasonable expectation of privacy and the data is not considered a business record. This maintains the restriction that the data may not be used for any purpose without receipt of explicit written authorization of the utility account holder.